

aspect relates to the ability for a mechanical press to have a variable slide motion adjustment that enables it to mechanically change the motion of the crankshaft angle curve, and therefore, the displacement curve of the press slide. In one aspect of the invention, a differential is utilized, driven by a single drive mechanism to control the movement and dwell of the press slide. Of particular interest is the ability to change the location and spacing of the press slide dwell and maintain it for particular periods of time and with particular crankshaft or driveshaft rotation. Another particular advantage of the present invention is that it includes the ability of the clutch to be maintained fully engaged and transfer energy therefrom to the crankshaft and slide, with entirely mechanical connections. With particular gearing, another advantage of the present invention, it may create substantially a constant slide in die velocity during portions of a slide stroke. Through the use of dividing the main drive torque to a first and second portion, the first portion to drive the main drive in one direction, along with a linking arrangement with gears for the second portion, the second portion of drive input may be added to or subtracted from the first main part of the drive input in one embodiment of the present invention, such that the second drive power portion operates control of the differential such as the spider link housing 101

to control addition or subtraction of the second drive input portion to the main drive input to the crankshaft.

Applicant respectfully submits that one of ordinary skill in the art would appreciate the ability to mechanically alter the slide or crank motion of the slide without additional motor input from a second prime mover (or servo motor) and the utilization of a link connection to control the one portion of the differential housing, thereby controlling whether the power of the two drive portions are added together or subtracted from one another during particular portions of crankshaft rotation. Such controlled application of addition or subtraction of drive power would alter the speed position and dwell of the slide during operation. Such possible mechanical variations makes possible an infinite number of different mechanically controlled settings available for mechanically controlling the differential via operating gears and links.

As disclosed in the specification, by changing the mechanical location or length of different links, particular changes in the differential control are thereby created, which therefore, leads to the drive torques being added or subtracted together at different rates, locations, or angles. Applicant respectfully requests the objections to the specification be withdrawn.

Claim 20 stands objected to under 37 CFR 1.75 for being in improper definite form. Applicant has amended Claim 20 to depend from Claim 18. Applicant respectfully requests the objection to be withdrawn.

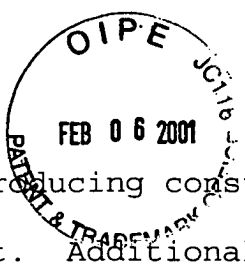
5 Claims 1-18 and 21 stand rejected under 35 U.S.C. § 112, second paragraph, for containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

10 Applicant respectfully requests the Examiner to review the professionally rendered drawings and specification in light of the comments above. Applicant respectfully requests the Examiner to withdraw the rejection.

15 Claims 1-5, 18, 18, and 21 stand rejected under 35 U.S.C. § 102(b), as either anticipated by Hayashi or the Soviet reference 1,274,940. Applicant has amended Claims 1, 18, and 21 to now include a recitation of the structural limitation of the present invention in which use of the variable output differential produces slide dwell or produces constant slide velocity.

20 Applicant respectfully requests the Examiner to give patentable weight to the properly formed claim recitations.

 Claims 1-5, 16, 18, and 21 stand rejected as anticipated by Hayashi. Applicant respectfully submits that the claims as amended do not teach the use of a variable output differential

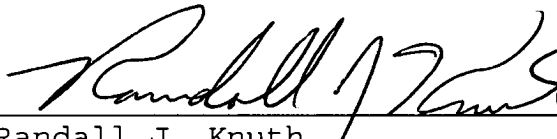


producing slide dwell or producing constant slide velocity during a portion of slide movement. Additionally, Hayashi utilizes not a single prime mover, but a main motor and servo motor in a power takeoff gear arrangement combination.

5 Applicant respectfully requests that the amended independent claims along with their dependent claims to be allowed with all claim rejections to be withdrawn. Applicant respectfully requests forwarding a Notice of Allowance to the undersigned.

10 If the Examiner has any questions or comments that would speed prosecution of this case, he is invited to call the undersigned at 219/485-6001.

Respectfully submitted,


Randall J. Knuth
Registration No. 34,644

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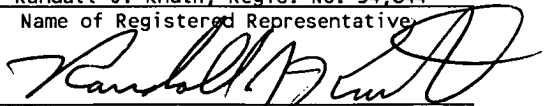
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Hon. Commissioner of Patents and Trademarks, Washington, D.C. 20231, on: January 31, 2001.

Randall J. Knuth, Regis. No. 34,644
Name of Registered Representative



Signature

January 31, 2001

Date

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